

**IN THE CLAIMS:**

Please amend the claims as follows:

1 – 26. (Cancelled).

27. (Currently Amended): A memory cell comprising:

(a) a non-linear magnetic element; and

(b) a single write line to store a remnant magnetic field in said magnetic element,

The memory of claim 18 wherein said magnetic element has five or more segments that are not co-linear and wherein each of said segments stores a magnetic field.

28. (Currently Amended): The memory cell of claim 27 18 wherein said magnetic element has six segments.

29 – 30. (Cancelled).

31. (Currently Amended): A memory cell comprising:

(a) a non-linear magnetic element; and

(b) a single write line to store a remnant magnetic field in said magnetic element,

The memory cell of claim 29 wherein said magnetic element is an incomplete toroid.

32 – 53. (Cancelled).

54. (Currently Amended): A memory cell comprising:

- (a) first, second, and third magnetic elements;
  - (b) a sensor having a sensing region; and
  - (c) a single write line to store a remnant magnetic field in each of said magnetic elements,
- wherein, when said memory cell is in a first orientation, the magnetic field in each of said magnetic elements has a first direction with respect to said sensing region, and when said memory cell is in a second orientation, the magnetic field in each of said magnetic elements has a second direction with respect to said sensing region, said write line including:
- (i) a first segment aligned with said first element;
  - (ii) a second segment aligned with said second element; and
  - (iii) a third segment aligned with said third element.

~~The memory cell of claim 51~~ wherein said second magnetic element has a trapezoidal cross-section and ~~wherein~~ said first and ~~second~~ third magnetic elements positioned adjacent to said second magnetic element are shaped to correspond to the shape of the second magnetic element.

55 – 68. (Cancelled).

69. (Currently Amended): A memory cell comprising:

(a) a magnetic element having a notched section;

(b) a single write line adjacent to said magnetic element to store a remnant magnetic field in said magnetic element, said magnetic field having a first orientation or a second orientation; and

(c) a sensor having a sensing region to detect the orientation of said magnetic field, wherein said notched section is defined by two or more sides of said magnetic element adjacent to said sensing region. ~~The memory cell of claim 68 wherein~~ said notched section has having a trapezoidal shape defined by three sides of said magnetic element.

70. (Original): The memory cell of claim 69 wherein said magnetic field stored in said magnetic element creates a magnetic flux field passing through said sensing region.

71. (Original): The memory cell of claim 70 wherein said magnetic flux field has magnetic flux lines that emanate from each of said sides.

72. (Original): The memory cell of claim 71 wherein at least some of said magnetic flux lines emanate from said sides at an angle corresponding to the permeability gradient between said magnetic element and surrounding materials.

73 – 81. (Cancelled).